



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,710	12/28/2001	Michael A. Miller	108737	3923

25944 7590 10/22/2003

OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

PARSONS, THOMAS H

ART UNIT	PAPER NUMBER
----------	--------------

1745

DATE MAILED: 10/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/028,710

Applicant(s)

MILLER ET AL.

Examiner

Thomas H Parsons

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-21 is/are allowed.
- 6) ☐ Claim(s) 1-8, 10, 11 and 15-18, 22-24 is/are rejected.
- 7) ☒ Claim(s) 9 and 12-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-8, 10-11, 15-16, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Blurton et al. (4,127,462).

Claim 1: Because the preamble has not been construed as limitation adding structure to the main body of the claim, the claim has been interpreted as a cell comprising an anode, a cathode, and a third electrode interposed therebetween.

Blurton et al. in Figure 2 disclose a cell comprising; an anode electrode (27); a cathode electrode (25); and a third electrode (29) interposed between the anode and the cathode electrodes (col. 7: 29-34).

Claim 2: Blurton et al. disclose that the third electrode (29) is a reference electrode (col. 4: 5-13 and 27-34; and, col. 7: 29-34).

Claim 3: Blurton et al. disclose that the third electrode and at least one of the anode and cathode electrodes are coupled to an electrical apparatus (Fig. 3, and col. 8: 12-61).

Claim 4: Blurton et al. disclose that the electrical apparatus is a current source (Fig. 3, and col. 8: 12-61).

Art Unit: 1745

Claim 5: Blurton et al. disclose that the electrical apparatus is an electrical measurement device (col. 5: 46-54).

Claim 6: Blurton et al. disclose that the third electrode (29) is used to control processes of at least the anode electrode (col. 4: 5-13 and 27-35).

Claim 7: Blurton et al disclose that the processes include at least one of a chemical process (i.e. current flow) (col. 4: 5-13 and 27-34).

Claim 8: Blurton et al. disclose that the third electrode (29) is used to monitor the health (i.e. relative potential) of any component (anode) of the cell.

Claim 10: Blurton et al. disclose that the third electrode (29) includes a material (Pt catalyzed PTFE) that permits ions of the electrochemical couple to be transported (diffused) past, or conducted through, its interposition (col. 7: 68-col. 8: 2).

Claim 11: Blurton et al. disclose that the third electrode (29) includes a polymer (PTFE) (col. 7: 68-col. 8: 2).

Claim 15: The recitation “further including at least one of the following fuel couple: substantially pure hydrocarbons, methanol, hydrazine, reformed ammonia, natural gas, and molten carbonate” has been given little patentable weight as it has been held that “Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim.” *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, “[i]nclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims.” *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)).

Art Unit: 1745

Claim 16: Blurton et al. disclose that the cell further includes an electrolyte (col. 5: 34-36).

Claim 17: Blurton et al. disclose that the electrolyte is a polymer solid electrolyte (i.e. a electrolyte trapped in a polyvinylchloride matrix)(col. 5: 34-45).

Claim 18: Blurton et al. disclose that the electrolyte includes at least one of an alkaline (col. 5: 34-36).

3. Claims 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by JP7-022047.

Claim 22: JP7-022047 in Figure 1 discloses a method for operating a fuel cell, comprising: applying an interactive feedback system (76) to control the state of hydration of the ionomer membrane utilizing an electrode (70) other than an anode or cathode electrode (Detailed Description, paragraphs [0013] through [0033]).

Claim 23: JP7-022047 in Figure 1 discloses that the interactive feedback system (76) regulates the fuel cell (Detailed Description, paragraphs [0013] through [0033]).

Claim 24: JP7-022047 discloses that the interactive feedback system (76) further monitors electrochemical processes at the anode or cathode (Detailed Description, paragraphs [0013] through [0033]).

Allowable Subject Matter

4. Claims 19-21 are allowable over the prior art of record.

Art Unit: 1745

5. Claims 9 and 12-14 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for Indicating Allowable Subject Matter

6. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record discloses forming an anode electrode; forming a cathode electrode; forming an electrolyte material; and sandwiching a nonconductive reference electrode and electrolyte material between the anode and cathode electrodes but is silent as to depositing a thin film of an electrically conductive metal or conducting polymer to a reference electrode.

Therefore, a search of the prior art of record failed to reveal or explicitly teach, alone or in combination, what is instantly claimed: in particular,

A method of manufacturing a fuel cell, comprising: forming an anode electrode; forming a cathode electrode; forming an electrolyte material; depositing a thin film of an electrically conductive metal or conducting polymer to a reference electrode; and sandwiching the reference electrode and electrolyte material between the anode and cathode electrodes.

For this reason, claim 19 and claims 20-21, which are dependent thereon, are patentably distinct from the prior art of record.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas H Parsons whose telephone number is (703) 306-9072. The examiner can normally be reached on M-F (7:00-4:30) First Friday Off.

Art Unit: 1745

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (703) 308-2383. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Thomas H Parsons
Examiner
Art Unit 1745


Patrick Ryan
Supervisory Patent Examiner
Technology Center 1700